

REMARKS

Claims 1-11 are pending in the instant application. Claims 1-11 stand rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement. Claims 1-11 further stand rejected under 35 USC 102 as being anticipated by Barkemeyer et al (J. Magnetic Resonance, 1996, p. 129-1-132). Claim 1 has been amended by including that the contrast agent is exposed to an oscillating magnetic field in combination with a stationary magnetic field during the step of hydrogenation. Basis for the amendment is found on page 3, line 28, and on page 18, lines 18-21. Claim 5 has been cancelled. Applicants respectfully submit that none of the amendments constitute new matter in contravention of 35 U.S.C. § 132. Reconsideration is respectfully requested.

Claims 1-11 stand rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement. This rejection is respectfully traversed.

Specifically, the Office again contends

“[t]he Specification as filed does not provide a written description of the claimed hydrogenatable, unsaturated substrate compound recited in the claims and that there is no description provided regarding what type of specific chemical moieties are used to represent the substrate that would render such a compound useful as a contrast agent.”

Applicants respectfully submit that the Office's objection is not beginning from a proper reading of the claims. The Office's objections are directed to a substrate compound in general, while the instant claims require that the substrate also include imaging nuclei. Each of the Office's objections stay directed to the broader 'substrate compound' without the required limitation of having imaging nuclei. The instant application describes imaging nuclei on page 5, line 24 through page 6, line 2 of the specification.

The Office, however, concludes that there is a failure to describe what compounds are encompassed by the term 'substrate compound' and that while three specific contrast agents have been described, such

“does not provide support of further compounds which Applicant envisaged that would be within the scope of any unsaturated compound”.
(Emphasis added).

Again, Applicants respectfully submit that the claims are not directed to ‘any’ unsaturated compound, but to unsaturated substrate compounds comprising imaging nuclei. The Office’s mischaracteration of the claim ignores this limitation and improperly broadens the claim scope. Therefore, given the Office’s mischaracterization of the instant invention, the rejection is based on a faulty premise. Applicants again respectfully submit that given the examples in the instant application that one of ordinary skill in the art would know how to select an unsaturated substrate compound based on the desired contrast agent.

Therefore, as the instant application both describes the technology for which patent protection is sought and does so in a way which clearly establishes possession of the invention, Applicants respectfully submit that the written description requirement has been met. Reconsideration and withdrawal of the rejection are respectfully requested.

Claims 1-11 stand rejected under 35 USC 102 as being anticipated by Barkemeyer et al. This rejection is respectfully traversed.

Claim 1 of the instant application has been amended to a method for producing MR contrast agents wherein hydrogenation of a substrate, to form a hydrogenated contrast agent, takes place at the same time as the contrast agent is exposed to an oscillating magnetic field in combination with a stationary magnetic field. The magnetic field and stationary field is present during hydrogenation to lock the spin order of the two parahydrogen atoms.

Barkemeyer discloses methods for transferring polarization generated by parahydrogen induced polarization to heteronuclei such as ^{13}C . Barkemeyer describes a method of applying oscillating magnetic fields in the presence of a stationary magnetic field. However, Barkemeyer is doing this after the hydrogenation to polarize ^{13}C on the basis of the

1H spin order of the para-hydrogen protons. Further, Barkemeyer is not directed to a method for producing contrast agents.

Hence, there is no teaching or indication by Barkemeyer of a method of preparing a contrast agent including the method steps as instantly claimed. Reconsideration and withdrawal of the rejection are respectfully requested.

In view of the amendments and remarks hereinabove, Applicants respectfully submit that the instant application, including claims 1-4 and 6-11, is in condition for allowance. Favorable action thereon is respectfully requested.

Any questions with respect to the foregoing may be directed to Applicants' undersigned counsel at the telephone number below.

The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment, in connection with this Response to Deposit Account No. 502-665 in the name of GE Healthcare, Inc.

Respectfully submitted,

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